Remarks by Donald C. Winter
Secretary of the Navy
American Society of Naval Engineers
ASNE Day 2008 Awards Luncheon
Hyatt Regency, Crystal City
Tuesday, June 24, 2008

Rear Admiral Gabel, Members and Council of the American Society of Naval Engineers, thank you for inviting me to your Annual Awards Luncheon.

Let me start by saying how much I appreciate what you do to advance the profession of Naval Engineering.

It is always a pleasure for me to speak to organizations that tirelessly work to maintain technical exchanges between the Navy and Marine Corps, the defense industry, and academia.

I encourage you to continue that exchange of expertise.

This is a very important conference for the Navy, and I am pleased to see so much discussion on the next generation cruiser.

The ongoing debate regarding the design and characteristics of CG(X) is a classic example of the challenges of defining a complex system.

* * *

CG(X) has multiple constituencies, each of which has different priorities and different agendas.

The spectrum of interests by the various constituencies is, in the case of CG(X), particularly wide-ranging.

This is to be expected, given the multiple mission sets performed by our current fleet of cruisers, the need to adapt to evolving threats—including ballistic and cruise missiles, the potential for incorporating numerous new and emerging technologies, the role that CG(X) will play in maintaining and defining the future industrial base, and the role that CG(X) could play in the future role of nuclear power.

To these issues must be added the implications of current and future budgets within which CG(X) must be accommodated.

Not surprisingly, many of the interests of these constituencies are in conflict.

We will not be able to satisfy all of them simultaneously.

Unlike the questions one finds in a typical university examination—where the challenge is to find the one, unique solution to a properly posed problem—in the real world, this is rarely the case, as we see here.

We need to define CG(X) in such a way that the final compromise reached will be a viable basis for a cost effective and timely development and production program.

It must reflect the various constituency interests consistent with their import.

I note that these interests translate into desirements that can be traded off against other factors.

Pardon my use of made-up words like "desirements," but I am among engineers, and I believe that you understand my intent.

Range and max speed, development schedule and technology insertion are classic trades.

In fact, there are very few hard and fast performance-related factors that cannot be traded off.

That said, there are many design criteria—in areas such as safety, for example—that reflect the accumulated experience of the Navy and cannot be compromised, barring extraordinary circumstances.

Integrating all of these considerations into the CG(X) definition process requires a systems engineering approach.

It is an approach that factors in a diverse set of interests to design what will become the centerpiece of our Fleet's surface combatant capabilities.

This will not be a simple matter of exploring different hull forms or propulsion plants.

The focus must be, first and foremost, how to accomplish the future mission set?

In that regard, we need to remember that our fundamental task is to modernize the fleet and enhance its capability—not build a ship.

In fact, it is quite possible that some of the enhanced capabilities we are seeking will derive from the fact that CG(X) is able to leverage other platforms—be they other ships in the strike group, satellites or UAVs.

Given the stakes at hand, the role CG(X) will play in the future fleet, and its impact on our budget and the industrial base, we need to take the time to properly and adequately define CG(X) before we initiate the acquisition process.

This will require the detailed evaluation of the various trades available to us, supported by extensive analyses of the implications of the candidate requirements as they are flowed down to the subsystem, and, in some cases, component level.

I believe that this is the only way to ensure that we have a solid basis for acquisition that can support an affordable and timely fielding of the capability we seek.

As we proceed with this systems engineering analysis, it is worthwhile to consider where we are coming from and where we need to head.

* * *

Our current guided missile cruisers are capable of employment in a Battle Force role for Air Warfare, Undersea Warfare, Surface Warfare, Naval Surface Fire Support and—with the addition of Tomahawk cruise missiles—long-range Strike Warfare missions.

They support carrier battle groups and amphibious forces.

They also routinely operate independently.

But our cruiser fleet is aging.

Our latest cruiser, USS PORT ROYAL (CG 73), was commissioned in 1994.

Fortunately, we have been engaged in a robust cruiser modernization program which, when complete, will improve warfighting capability across a broad spectrum of missions, and will ensure that all 22 our cruisers will have a common warfighting baseline.

This modernization program will ensure that our cruisers are capable of defending our interests from the latest threats.

Let us not forget that our adversaries are modernizing as well.

There is an ongoing and evolving threat to U.S. interests at home and abroad from both cruise missiles and ballistic missiles.

In 1972, the rest of the world's ballistic missile capability consisted of 14 types of missiles in just 7 countries.

Now, today, there are over 63 different types of ballistic missiles in 24 countries.

That equates to 4 times as many missile types in 3 times as many countries in 30 years.

The future is not hard to envision.

Missile technology will continue to develop and proliferate.

State and non-state actors will continue to gain access to delivery systems with extended reach.

For example, we have already seen terrorist groups like Hezbollah conduct missile strikes against an Israeli ship this past year—strikes which demonstrated a range and capability far beyond what we had previously imagined.

With increasing concern over missile threats worldwide, there will be increasing demand for improving our missile defense capabilities.

CG(X) must be viewed in that context.

Furthermore, in addition to providing missile defense for deployed Carrier or Expeditionary Strike Groups, we are seeing cruisers taking on broader roles in this domain.

Today, deployed Aegis class cruisers and destroyers can provide important tracking capabilities as part of the integrated ballistic missile defense system, enhancing the capabilities of other shooters, such as the ground-based interceptors located in Alaska and California.

This role may likely grow, as additional intercept capabilities are deployed. Furthermore, as a shooter, CG(X) can exploit the flexibility inherent in the seabase to provide a defensive shield for regional, deployed forces, or other US and allied nations' interests around the world.

* * *

Defining CG(X) for a future characterized by growing missile threats will require an approach that has served us well in the past.

As we embark on the mission to properly define this vital component of our Nation's defense, a little attention to history may be instructive.

Rear Admiral Wayne E. Meyer is widely regarded as the father of the AEGIS combat system, the success of which can be directly correlated to the value of the Systems Engineering approach—an approach that he insisted on during the Aegis development.

Meyer's philosophy of "build a little, test a little, learn a lot" was the cornerstone of the program.

By pushing testing and development to the forefront, he was able to discover and overcome design problems before they were installed on the ship.

Now, CG(X) will not IOC for 10 years, and it is projected to have a service life on the order of 40 or more years.

Sea-based ballistic missile defense is still in its infancy.

We cannot know what the BMD architecture will look like 40 years down the road, or how the architecture will evolve during that time, so we must ensure that CG(X) is designed to maintain currency throughout its lifecycle.

It must be an open architecture with ample margins, capable of supporting future capabilities.

It must be designed with future growth in mind, and remain flexible enough to support evolving mission requirements.

We should view it as a platform that will undergo frequent spirals, hopefully, without the need for lengthy shipyard periods.

If we design CG(X) keeping all this in mind, we will lay the foundation for a future crown jewel of the Fleet.

* * *

The American Society of Naval Engineers has been a great national asset in advancing the profession of Naval Engineering throughout its history.

Your contributions are critical to the Navy, and to the future security of the Nation.

Let us continue to build upon your many past successes, and further advance the important work on CG(X) -- one of the Navy's highest priorities.

Thank you all for your hard work, service, and dedication in support of our Nation's defense.